

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 2 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1 – 126. (canceled).

127. (Currently Amended) An electrical transformer including a housing that contains a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid is ~~essentially a natural food product~~ and consists essentially of a vegetable oil and an antioxidant compound, and wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is environmentally safe.

128. (Original) The transformer of claim 127, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

129. (Original) The transformer of claim 128, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

130. (Currently Amended) A transformer including a housing that contains a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid is ~~essentially a natural food product~~ and consists essentially of an oleate modified vegetable oil and an antioxidant compound, and wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 100 cSt at 40°C, and wherein the dielectric fluid is environmentally safe.

131. (Original) The transformer of claim 130, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 3 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

132. (Original) The transformer of claim 131, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

133. (Currently Amended) A transformer including a housing that contains a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid is ~~essentially a natural food product~~ and consists of a vegetable oil and an antioxidant compound, and wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is environmentally safe.

134. (Original) The transformer of claim 133, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

135. (Original) The transformer of claim 134, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

136. (Currently Amended) A transformer including a tank housing a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid is ~~essentially a natural food product~~ and consists of an oleate modified vegetable oil and an antioxidant compound, and wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is environmentally safe.

137. (Original) The transformer of claim 136, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

138. (Original) The transformer of claim 137, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

139. (Currently Amended) A transformer including a tank housing a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid consists essentially of a base oil and additives that increase the functional properties of the base oil, the

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 4 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

base oil consisting of a vegetable oil having a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and the additives selected from the group consisting of an antioxidant compound, a low temperature additive and an antimicrobial additive, wherein the dielectric fluid is environmentally safe.

140. (Original) The transformer of claim 139, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

141. Canceled

142. (Currently Amended) A transformer including a housing that contains a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid consists essentially of a vegetable oil with a viscosity of between 2 and 15 cSt at 100°C, and less than 110 cSt at 40°C and an antioxidant compound; and wherein the dielectric fluid has: (a) a minimum dielectric breakdown of greater than or equal to 30 kV; (b) a fire point of greater than 300°C; and (c) a pour point between -15 and -25°C.

143. (Original) The transformer of claim 142, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

144. (Original) The transformer of claim 143, wherein the dielectric fluid further comprises a least one of a low temperature additive and an antimicrobial additive.

145. (Currently Amended) ~~A The transformer including a housing that contains a transformer core/coil assembly, comprising:~~

~~a dielectric fluid surrounding said core-coil assembly of claim 142, wherein the dielectric fluid consists essentially of vegetable oil is an oleate modified vegetable oil with a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C and an antioxidant compound; and wherein the dielectric fluid has: (a) a minimum dielectric breakdown of greater than or equal to 30 kV; (b) a fire point of greater than 300°C; and (c) a pour point between -15 and -25°C.~~

146-147. Canceled

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 5 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

148. (Currently Amended) A method of using a transformer, comprising employing in the transformer a dielectric fluid, the dielectric fluid consisting essentially of a vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is ~~essentially a natural food product~~ environmentally safe.

149. (Original) The method of claim 148, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

150. (Original) The method of claim 149, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

151. (Currently Amended) A method of using a transformer, comprising employing in the transformer a dielectric fluid, the dielectric fluid consisting essentially of an oleate modified vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is ~~essentially a natural food product~~ environmentally safe.

152. (Original) The method of claim 151, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

153. (Original) The method of claim 152, wherein the dielectric fluid further comprises a least one of a low temperature additive and an antimicrobial additive.

154. (Currently Amended) A method of using a transformer including a housing that contains a transformer core/coil assembly, comprising: employing in the transformer a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid consists ~~essentially~~ of a base oil and additives that increase the functional properties of the base oil, the base oil consisting of a vegetable oil having a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and the additives selected from the group consisting of at least one of an antioxidant compound, and an antimicrobial additive.

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 6 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

155. (Original) The method of claim 154, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

156. Canceled

157. (Currently Amended) A method of using a transformer, comprising employing in the transformer a dielectric fluid, the dielectric fluid consisting of a vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is ~~essentially a natural food product environmentally safe.~~

158. (Original) The method of claim 157, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

159. (Original) The method of claim 158, wherein the dielectric fluid further comprises a least one of a low temperature additive and an antimicrobial additive.

160. (Currently Amended) A method of using a transformer, comprising employing in the transformer a dielectric fluid, the dielectric fluid consisting of an oleate modified vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is ~~essentially a natural food product environmentally safe.~~

161. (Original) The method of claim 160, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

162. (Original) The method of claim 161, wherein the dielectric fluid further comprises a least one of a low temperature additive and an antimicrobial additive.

163. (Currently Amended) A method of retrofitting a transformer, comprising: removing an existing dielectric fluid from the transformer; drying the transformer; and replacing the existing dielectric fluid with a dielectric fluid consisting essentially of a vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 7 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is ~~essentially a natural food product~~ environmentally safe.

164. (Original) The method of claim 163, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

165. (Original) The method of claim 164, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

166. (Currently Amended) A method of retrofilling a transformer, comprising removing an existing dielectric fluid from the transformer; drying the transformer; and replacing the existing dielectric fluid with a dielectric fluid consisting essentially of an oleate modified vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C, and wherein the dielectric fluid is ~~essentially a natural food product~~ environmentally safe.

167. (Original) The method of claim 166, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

168. (Original) The method of claim 167, wherein the dielectric fluid further comprises a least one of a low temperature additive and an antimicrobial additive.

169. (Currently Amended) A method of retrofilling a transformer, comprising removing an existing dielectric fluid from the transformer; drying the transformer; and replacing the existing dielectric fluid with an environmentally safe dielectric fluid consisting essentially of a vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C.

170. (Original) The method of claim 169, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

171. (Original) The method of claim 170, wherein the dielectric fluid further comprises at least one of a low temperature additive and an antimicrobial additive.

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 8 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

172. (Currently Amended) A method of retrofilling a transformer, comprising removing an existing dielectric fluid from the transformer; drying the transformer; and replacing the existing dielectric fluid with an environmentally safe dielectric fluid consisting essentially of an oleate modified vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C.

173. (Original) The method of claim 172, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

174. (Original) The method of claim 173, wherein the dielectric fluid further comprises a least one of a low temperature additive and an antimicrobial additive.

175. (New) A transformer including a housing that contains a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core-coil assembly, wherein the dielectric fluid consists of a vegetable oil and an antioxidant compound, and wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C.

176. (New) The transformer of claim 175, wherein the dielectric fluid further consists of at least one of a low temperature additive and an antimicrobial additive.

177. (New) The transformer of claim 176, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

178. (New) The transformer of claim 175, wherein the vegetable oil is an oleate modified vegetable oil.

179. (New) A method of retrofilling a transformer, comprising removing an existing dielectric fluid from the transformer and replacing the existing dielectric fluid with a dielectric fluid consisting of a vegetable oil and an antioxidant compound, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40°C.

180. (New) The method of claim 179, wherein the dielectric fluid further consists of at least one of a low temperature additive and an antimicrobial additive.

Applicant : Charles P. McShane et al.
Serial No. : 10/619,893
Filed : July 15, 2003
Page : 9 of 11

Attorney's Docket No.: 08215-301003 / P06-023937

181. (New) The method of claim 180, wherein the antioxidant compound is selected from the group consisting of BHA, BHT, TBHQ, THBP, ascorbyl palmitate, propyl gallate and alpha-, beta- or delta-tocopherol.

182. (New) The method of claim 179, wherein the vegetable oil is an oleate modified vegetable oil.

183. (New) A transformer including a housing that contains a transformer core/coil assembly, comprising:

a dielectric fluid surrounding said core/coil assembly, wherein the dielectric fluid consists of a vegetable oil, an antioxidant compound and a low temperature additive, wherein the vegetable oil has a viscosity of between 2 and 15 cSt at 100°C and less than 110 cSt at 40° C, and wherein the dielectric fluid is environmentally safe.

184. (New) The transformer of claim 183, wherein the vegetable oil is an oleate modified vegetable oil.

185. (New) The transformer of claim 183, wherein the dielectric fluid further consists of an antimicrobial additive.